SUPPORT FOR THE AMENDMENTS

Claims 111-114 have been canceled. Accordingly, no new matter is believed to have been added to the present application by the amendments submitted above.

REMARKS

Claims 84-110 and 115-126 remain pending. Favorable reconsideration is respectfully requested.

Applicants would like to thank Examiner Chen for the helpful and courteous discussion held with their representative on May 8, 2008. During the discussion, amendments and arguments to overcome the outstanding rejection were discussed. The following remarks expand on the discussion with the Examiner.

The present invention relates to a process for producing an alumina coating comprised mainly of α crystal structure, comprising:

coating a base material with a metal component comprising Al and Ti and one or more of B, C, N and O to form a primary coating,

oxidizing the primary coating to form an oxide-containing layer, and

forming an alumina coating comprised mainly of α crystal structure on the oxide-containing layer.

See Claim 84.

The rejections of the claims under 35 U.S.C. §103(a) over Prizzi et al. in view of Oles et al. and further in view of Sathrum et al. are respectfully traversed. The cited references fail to suggest the claimed process.

Prizzi et al. disclose a coated cutting tool composed of a substrate and a coating bonded to the substrate. See the Abstract. The base coating layer is titanium aluminum nitride (TiAlN) with an outer layer of alumina deposited thereon. See column 4, lines 46-54. At column 4, lines 59-61, Prizzi et al. state:

> The presence of the aluminum in the TiAlN should also promote the nucleation of alumina grains in the alumina outer coating on the titanium aluminum nitride layer surface.

As recognized by the Office, Prizzi et al. fails to disclose oxidizing the TiAlN coating.

Oles et al. disclose cutting tool composed of a substrate and a refractory coating containing aluminum. See the Abstract. The coating contains a layer of TiAlN (see column 2, lines 23-24. The coating may also contain a lower layer of aluminum oxide (see column 2, lines 30-35). That is, the layer of aluminum oxide is below the layer of TiAlN relative to the substrate-- i.e., between the substrate and the TiAlN layer (see column 3, line 56 to column 4, line 5). At column 3, lines 42-47, Oles et al. state:

> It is believed that the aluminum in the coating of titanium aluminum nitride oxidizes at cutting temperatures during hard turning to produce a film of chemically inert aluminum oxide at the interface of the tool with a chip of the metal work piece produced during hard turning.

Sathrum et al. has been cited for a description of ion bombardment. See the bottom of page 5 of the Office Action.

The cited references actually teach away from the claimed process. If the presence of *aluminum* in TiAlN layer may promote the nucleation of alumina grains as disclosed by Prizzi et al., then one would expect that effect to be diminished and possibly eliminated, by the formation of the *alumina* layer upon oxidation as described by Oles et al. Furthermore, Oles et al. actually suggests the use of an alumina layer, but explicitly places that layer between the substrate and the TiAlN layer, rather than as an outer coating layer as claimed.

In view of the foregoing, the combination of Prizzi et al., Oles et al. and Sathrum et al. fail to suggest the claimed process. Accordingly, the claimed process is not obvious over those references. Withdrawal of this ground of rejection is respectfully requested.

Regarding the restriction requirement, non-elected Claims 111-114 have been canceled.

Applicants submit that the present application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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